from the previous three and provides the "big picture" pattern of snake evolution, biogeography, and paleoecology in North America through time. Holman shows that snakes in North America during the late Cretaceous, to a greater extent than even the mammals, appear to have been quite rare, small, and an insignificant component of the faunal landscape. In contrast to the dramatic expansion of the North American mammalian fauna during the early Tertiary, the record of snakes remains depauperate throughout the Paleocene and Eocene. Diversity appears to take a great leap forward in the Early Miocene, but we learn that it is in the middle Miocene that the North American snake fauna significantly expands into the profusion of ecological roles currently occupied by the modern fauna. By the end of the Late Miocene, after what Holman points out was "one of the most rapid evolutionary radiations of any vertebrate group" (p. 297), the fauna was essentially modern, at least at the generic level. By the end of the Pliocene, the fauna was nearly modern at the species level.

The last part of Chapter 4 includes an interesting discussion on misplaced assumptions regarding the use of fossil snakes for the reconstruction of past habitats and climate, with particular emphasis placed on the counter-intuitive findings of evolutionary stasis and limited geographic range adjustments in snake faunas during the Pleistocene. In the section on range adjustments, Holman reviews the disharmonious communities concept of Lundelius et al. (1983) and introduces the non-specialist to hypotheses constructed to explain faunal climatic adjustments such as the "stripe hypothesis," the "Pleistocene equability hypothesis," the "Pleistocene specific response hypothesis," and the "plaid hypothesis." Returning to the idea of evolutionary stasis in snakes during the span of Pleistocene glacials and interglacials, Holman discusses several possible reasons. These include biases that may have been imposed by incorrect taxonomy and the difficulties in discriminating between taxa that have very similar vertebral morphology, as well as the retention of conventional ideas surrounding what was once thought to be the limited ecological and physiological tolerances of snakes. Holman further points out additional factors that may have contributed to their survival and stasis including the small size of many snakes, their independence from any apparent ecological relationship with the Pleistocene mammalian megafauna, their lack of parenting-imposed stress, and their apparent absence from the diet of North America's early human inhabitants. In summary, we learn that snakes evidently had much broader ecological and physiological tolerances than previously considered.

In the epilogue, Holman recalls his first encounter with a snake, a disastrous one for the latter, and he goes on to make a plea for the conservation of snakes, citing several examples of, and reasons for, their very recent and dramatic decline. And I am glad that Holman decided to end his book with a personal note; that is not often the case in scientific writing, but it certainly seemed appropriate in this case—in this culmination of a life's work well done.

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